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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/769,386	01/31/2004	Tehri S. Lee	K35A1358	9439

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WESTERN DIGITAL TECHNOLOGIES, INC.

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EXAMINER

MERCEDES, DISMERY E

ART UNIT

PAPER NUMBER

2627

DATE MAILED: 07/17/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/769,386	Applicant(s) LEE, TEHRI S.	
	Examiner Dismery E. Mercedes	Art Unit 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 May 2006.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,3,6-10,12,15 and 16 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,6,8-10,12 and 15 is/are rejected.
- 7) ☒ Claim(s) 7 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Office Action in response to RCE filed 5/1/2006.

#### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) submitted on 5/01/2006 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1,3,8-9,10,12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swearingen et al. (US 5,668,679) in view of Esumi (US 2001/0010604).

As to Claim 10, Swearingen et al. discloses a servo writer for a disk drive comprising: (a) a disk comprising a plurality of spiral tracks, wherein each spiral track comprises a high frequency signal interrupted at a predetermined interval by a sync mark (as depicted in Fig.1, & col.9, lines 16-29); (b) an actuator arm (as depicted in Fig.1, "13"); (c) a head connected to a distal end of the actuator arm (as depicted in Fig.1, "12"); (d) a voice coil motor for rotating the actuator arm about a pivot to position the head radially over the disk (as depicted in Fig.1, "14" and Fig.3, "23"); and (e) control circuitry for writing a plurality of product servo sectors to the disk to define a plurality of

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radially spaced, concentric data tracks by: using the head internal to the disk drive to read the spiral tracks to generate a read signal (col.5, lines 51-65 & col.6, lines 41-48); generating a timing recovery measurement in response to the detected sync mark and the sync mark reliability metric (col.7, lines 5-30); synchronizing a servo write clock in response to the timing recovery measurement (col. 7, lines 33-40, col.9, lines 15-30 & col.12, lines 41-66); processing the read signal to representing the high frequency signal in the spiral track to generate a position error signal used to maintain the head along a substantially circular target path (col.5, 12-13, 35-44 & col.7, line 5& col.11, lines 20-30); and using the servo write clock and the head internal to the disk drive to write the product servo sectors along the circular target path (col.6, lines 65-col.7, line 5, col.11, lines 43-44). Although, Swearingen et al. discloses a sync detect signal representing that the sync signal is detected accurately and as a result a timing measurement (col.7, lines 5-60 and col.9, lines 63- col.10, line 30); it fails to specifically disclose processing the read signal to detect a sync mark in a spiral track and generating an associated sync mark reliability metric, wherein the sync mark reliability metric representing a probability that the sync mark was detected accurately. However, Esumi discloses such (page 3, 0056 – page 4, 0063, also see 0006). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the sync signal detection as disclosed by Swearingen et al. with the above teachings of Esumi, the motivation being to provide the disk drive with an improved sync detection performance, thus improving the overall performance of the drive.

As to Claim 12, Swearingen et al. further discloses wherein a) rectifying the read signal; and generating a dc component of the rectified signal (col.6, lines 53-62, wherein a dc signal is obtained from the rectifier's output).

As to Claims 1,3,8-9 are method claims drawn to the apparatus of claims 1 & 12, and are therefore rejected for similar reasons as set forth in the rejections of claims 1 & 12 as discussed above.

5. Claims 6,15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Swearingen et al. in view of Esumi, further in view of Christiansen et al. (US 6,603,622 B1).

As to Claim 15, Swearingen et al. and Esumi, discloses the disk drive of claim 10, but fails to particularly disclose, wherein the control circuitry for generating the timing recovery measurement by: a) comparing the sync mark reliability metric to a threshold; b) if the sync mark reliability metric is above a threshold, generating the timing recovery measurement in response to the detected sync mark; and if the sync mark reliability metric is below a threshold ignoring the detected sync mark.

However, Christiansen et al. discloses such (col.1, line 55- col.2, line 20). Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention to modify the apparatus disclosed by Swearingen et al. in view of Esumi, by implementing a timing recovery measurement as disclosed by Christiansen et al., the motivation being because, it would provide the apparatus with the enhanced capability of improving the reliability of the sync mark detection process to minimize the number of retries (as taught by Christiansen et al., col.1, lines 42-45).

As to Claim 6, is drawn to the apparatus of claim 15 is therefore rejected for similar reasons as set forth in claim 15, above.

***Allowable Subject Matter***

1. Claims 7 & 16 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 7 & 16 are allowable over prior art record since the cited references do not teach or suggest: “wherein the control circuitry for generating the timing recovery measurement by: a) accumulating the consecutive number of ignored sync marks; and b) if the accumulation exceeds a predetermined number and the sync mark reliability metric is below the threshold, generating the timing recovery measurement in response to the detected sync mark.”

***Conclusion***

2. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Moran et al. (US 6,738,205 B1); Shimura et al. (US 6,181,506); Sakamoto (US 6,272,194 B1); Scaramuzzo et al. (US 5,917,670); Fisher et al. (US 5,430,661); Cloke et al. (US 6,487,032); Chue et al. (US 7,068,461); Lee (US 6,967,799).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dismery E. Mercedes whose telephone number is 571-272-7558. The examiner can normally be reached on Monday - Friday, from 9:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne R. Young can be reached on 571-272-7582. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DM

A handwritten signature in black ink, consisting of a large, stylized 'D' followed by a horizontal line and a small flourish.A handwritten signature in black ink, consisting of a large, stylized 'W' followed by a horizontal line and a small flourish.

WAYNE YOUNG  
SUPERVISORY PATENT EXAMINER